tb_fifo.v

AUTHORS

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DATES

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INFORMATION

Brief

Test bench for fifo using fifo stim and clock stim.

License MIT

tb_fifo

```
module tb_fifo #(
parameter
IN_FILE_NAME
 =
in.bin,
parameter
OUT_FILE_NAME
 =
out.bin,
parameter
FIFO_DEPTH
 =
64,
parameter
```

```
 RAND_FULL
  =
 0
)()
```

Test bench for fifo. This will run a file through the system and write its output. These can then be compared to check for errors. If the files are identical, no errors. A FST file will be written.

Parameters

IN_FILE_NAME parameter	File name for input.
OUT_FILE_NAME parameter	File name for output.
FIFO_DEPTH parameter	Number of transactions to buffer.
RAND_READY	0 = no random ready. 1 = randomize ready.

INSTANTIATED MODULES

clk_stim

```
 clk_stimulus #(
                                                                                .
 CLOCKS(2),
                                                                                .
 CLOCK_BASE(1000000),
                                                                                .
 CLOCK_INC(1000),
                                                                                .
 RESETS(2),
                                                                                .
 RESET_BASE(2000),
                                                                                .
 RESET_INC(100)
) clk_stim ( .clkv({tb_dut_clk, tb_stim_clk}), .rstnv({tb_dut_rstn, tb_stim_
```

Generate a 50/50 duty cycle set of clocks and reset.

write_fifo_stimulus

```
 write_fifo_stimulus #(
                                                                                .
 BYTE_WIDTH(BYTE_WIDTH),
                                                                                .
 FILE(IN_FILE_NAME)
) write_fifo_stim ( .rd_clk(tb_stim_clk), .rd_rstn(tb_stim_rstn), .rd_en(~tb
```

Device under test WRITE stimulus module.

dut

```
 fifo #(
                                                                                .
```

```
 FIFO_DEPTH(FIFO_DEPTH),                                                    .
 BYTE_WIDTH(BYTE_WIDTH),                                                    .
 COUNT_WIDTH(8),                                                            .
 FWFT(0),                                                                   .
 RD_SYNC_DEPTH(0),                                                          .
 WR_SYNC_DEPTH(0),                                                          .
 DC_SYNC_DEPTH(0),                                                          .
 COUNT_DELAY(1),                                                            .
 COUNT_ENA(1),                                                              .
 DATA_ZERO(0),                                                              .
 ACK_ENA(0),                                                                .
 RAM_TYPE("block")
) dut ( .wr_clk(tb_stim_clk), .wr_rstn(tb_stim_rstn), .wr_en(tb_stim_valid),
```

Device under test, fifo

read_fifo_stimulus

```
 read_fifo_stimulus #(                                                      .
 BYTE_WIDTH(BYTE_WIDTH),                                                    .
 RAND_FULL(RAND_FULL),                                                      .
 FILE(OUT_FILE_NAME)
) read_fifo_stim ( .wr_clk(tb_dut_clk), .wr_rstn(tb_dut_rstn), .wr_en(tb_dut
```

Device under test READ stimulus module.